

In the Claims

This listing of claims will replace all prior versions, and listings, of claims in the application:

1. (currently amended) A method of heating a food product comprising:
 - a) providing a blancher including a food product-receiving chamber disposed in a housing that has a food product inlet and a food product outlet, a rotary food product transport mechanism disposed in the food product receiving chamber for urging the food product toward the food product outlet, and a plurality of pairs of orifices each for introducing a fluid into the housing;
 - b) introducing food product into a heat transfer medium within the housing of the blancher through the inlet;
 - c) discharging a fluid through at least one of the plurality of pairs of orifices into the heat transfer medium;
 - d) heating the food product in the food product-receiving chamber;
 - e) urging the food product in the food product-receiving chamber toward the outlet; and
 - f) removing the food product from the food product-receiving chamber through the outlet;

and

wherein in step c) the fluid is a liquid that is discharged through at least one of the orifices at a flow rate of at least 20 gpm and a pressure of at least 30 psi.

2. (canceled)

3. (currently amended) The method of claim 2-1 wherein there is provided at least one bank of orifices comprised of a plurality of orifices, the blancher has a length, and in step c) the liquid is discharged from the bank of orifices at a flow rate of at least 60 gpm per foot of length of the blancher.

4. (original) The method of claim 3 wherein the heat transfer medium comprises a liquid and further comprising the additional step of withdrawing liquid heat transfer medium from the blancher and discharging the withdrawn liquid heat transfer medium in step c).

5. (currently amended) A method of heating a food product comprising:

a) providing a blancher including a food product-receiving chamber disposed in a housing that has a food product inlet and a food product outlet, a rotary food product transport mechanism disposed in the food product receiving chamber for urging the food product toward the food product outlet, and a plurality of pairs of orifices each for introducing a fluid into the housing;

b) introducing food product into a heat transfer medium within the housing of the blancher through the inlet;

c) discharging a fluid through at least one of the plurality of pairs of orifices into the heat transfer medium;

d) heating the food product in the food product-receiving chamber;

_____ e) urging the food product in the food product-receiving chamber toward the outlet; and
_____ f) removing the food product from the food product-receiving chamber through the outlet;
and

_____ ~~The method of claim 1~~ wherein in step c) the fluid is a liquid discharged through at least
one of the orifices at a flow rate of at least 20 gpm and a pressure of at least 80 psi.

6. (original) The method of claim 5 wherein there is provided at least one bank of orifices comprised of a plurality of orifices, the blancher has a length, and in step c) the liquid is discharged from the bank of orifices at a flow rate of at least 60 gpm per foot of length of the blancher.

7. (original) The method of claim 6 wherein the heat transfer medium comprises a liquid and further comprising the additional step of withdrawing liquid heat transfer medium from the blancher and discharging the withdrawn liquid heat transfer medium in step c).

8. (currently amended) A method of heating a food product comprising:

_____ a) providing a blancher including a food product-receiving chamber disposed in a housing
that has a food product inlet and a food product outlet, a rotary food product transport mechanism
disposed in the food product receiving chamber for urging the food product toward the food
product outlet, and a plurality of pairs of orifices each for introducing a fluid into the housing;

b) introducing food product into a heat transfer medium within the housing of the blancher through the inlet;

c) discharging a fluid through at least one of the plurality of pairs of orifices into the heat transfer medium;

d) heating the food product in the food product-receiving chamber;

e) urging the food product in the food product-receiving chamber toward the outlet; and

f) removing the food product from the food product-receiving chamber through the outlet;
and

~~The method of claim 1~~ wherein in step c) the fluid comprises a gas discharged through at least one of the orifices at a flow rate of at least 60 CFM and a pressure of at least 2 psi.

9. (original) The method of claim 8 wherein there is a gaseous atmosphere in the blancher and further comprising the additional step of withdrawing a portion of the gaseous atmosphere from the blancher and discharging the withdrawn portion of the gaseous atmosphere in step c).

10. (original) The method of claim 9 wherein the heat transfer medium comprises water and the gaseous atmosphere in the blancher includes water vapor.

11. (original) The method of claim 8 wherein there is provided at least one bank of orifices comprised of a plurality of orifices, the blancher has a length, and in step c) the gas is discharged

from the bank of orifices at a flow rate of at least 100 CFM per foot of length of the blancher.

12. (original) The method of claim 8 wherein there is provided at least one bank of orifices comprised of a plurality of orifices, the blancher has a length, and in step c) the gas is discharged from the bank of orifices at a flow rate of at least 200 CFM per foot of length of the blancher.

13. (currently amended) A method of heating a food product comprising:

a) providing a blancher including a food product-receiving chamber disposed in a housing that has a food product inlet and a food product outlet, a rotary food product transport mechanism disposed in the food product receiving chamber for urging the food product toward the food product outlet, and a plurality of pairs of orifices each for introducing a fluid into the housing;

b) introducing food product into a heat transfer medium within the housing of the blancher through the inlet;

c) discharging a fluid through at least one of the plurality of pairs of orifices into the heat transfer medium;

d) heating the food product in the food product-receiving chamber;

e) urging the food product in the food product-receiving chamber toward the outlet; and

f) removing the food product from the food product-receiving chamber through the outlet;
and

~~The method of claim 1~~ wherein in step c) the fluid comprises a gas discharged through at least one of the orifices at a flow rate of at least 10 CFM and a pressure of at least 60 psi.

14. (original) The method of claim 13 wherein there is a gaseous atmosphere in the blancher and further comprising the additional step of withdrawing a portion of the gaseous atmosphere from the blancher and discharging the withdrawn portion of the gaseous atmosphere in step c).

15. (original) The method of claim 14 wherein the heat transfer medium comprises water and the gaseous atmosphere in the blancher includes water vapor.

16. (original) The method of claim 13 wherein there is provided at least one bank of orifices comprised of a plurality of orifices, the blancher has a length, and in step c) the gas is discharged from the bank of orifices at a flow rate of at least 10 CFM per foot of length of the blancher.

17. (currently amended) A method of heating a food product comprising:

a) providing a blancher including a food product-receiving chamber disposed in a housing that has a food product inlet and a food product outlet, a rotary food product transport mechanism disposed in the food product receiving chamber for urging the food product toward the food product outlet, and a plurality of pairs of orifices each for introducing a fluid into the housing;

b) introducing food product into a heat transfer medium within the housing of the blancher through the inlet;

c) discharging a fluid through at least one of the plurality of pairs of orifices into the heat transfer medium;

d) heating the food product in the food product-receiving chamber;

e) urging the food product in the food product-receiving chamber toward the outlet; and

f) removing the food product from the food product-receiving chamber through the outlet;
and

~~The method of claim 1~~ wherein the food products have a density of at least 55 lb/ft³ and in step c) there is at least one orifice through which water is discharged at a flow rate of at least 20 gpm and a pressure of at least 30 psi and there is at least one orifice through which air is discharged at a flow rate of at least 60 SCFM and a pressure of at least 2 psi.

18. (original) The method of claim 17 wherein there is at least eight inches of depth of food product in the food product-receiving chamber.

19. (original) The method of claim 17 wherein at least eight thousand pounds of food product per hour is removed in step f).

20. (currently amended) A method of heating a food product comprising:

a) providing a blancher including a food product-receiving chamber disposed in a housing that has a food product inlet and a food product outlet, a rotary food product transport mechanism disposed in the food product receiving chamber for urging the food product toward the food product outlet, and a plurality of pairs of orifices each for introducing a fluid into the housing;

b) introducing food product into a heat transfer medium within the housing of the blancher through the inlet;

c) discharging a fluid through at least one of the plurality of pairs of orifices into the heat transfer medium;

d) heating the food product in the food product-receiving chamber;

e) urging the food product in the food product-receiving chamber toward the outlet; and

f) removing the food product from the food product-receiving chamber through the outlet;
and

~~The method of claim 1~~ wherein the food products have a density of at least 55 lb/ft³ and in step c) there is at least one orifice through which water is discharged at a flow rate of at least 20 gpm and a pressure of at least 30 psi and there is at least one orifice through which air is discharged at a flow rate of at least 10 SCFM and a pressure of at least 80 psi.

21. (original) The method of claim 20 wherein there is at least eight inches of depth of food product in the food product-receiving chamber.
22. (original) The method of claim 20 wherein at least eight thousand pounds of food product per hour is removed in step f).
23. (currently amended) A method of heating a food product comprising:
- a) providing a blancher including a food product-receiving chamber disposed in a housing that has a food product inlet and a food product outlet, a rotary food product transport mechanism disposed in the food product receiving chamber for urging the food product toward the food product outlet, and a plurality of pairs of orifices each for introducing a fluid into the housing;
 - b) introducing food product into a heat transfer medium within the housing of the blancher through the inlet;
 - c) discharging a fluid through at least one of the plurality of pairs of orifices into the heat transfer medium;
 - d) heating the food product in the food product-receiving chamber;
 - e) urging the food product in the food product-receiving chamber toward the outlet; and
 - f) removing the food product from the food product-receiving chamber through the outlet;
- and

~~The method of claim 1~~ wherein the blancher has a length, the food products have a density of at least 55 lb/ft³, and in step c) there is at least one orifice through which water is discharged at a flow rate of at least 80 gpm per foot of blancher length and a pressure of at least 30 psi and there is at least one orifice through which air is discharged at a flow rate of at least 10 SCFM per foot of blancher length and a pressure of at least 80 psi.

24. (original) The method of claim 23 wherein there is at least eight inches of depth of food product in the food product-receiving chamber.

25. (original) The method of claim 23 wherein at least eight thousand pounds of food product per hour is removed in step f).

26. (currently amended) A method of heating a food product comprising:

a) providing a blancher including a food product-receiving chamber disposed in a housing that has a food product inlet and a food product outlet, a rotary food product transport mechanism disposed in the food product receiving chamber for urging the food product toward the food product outlet, and a plurality of pairs of orifices each for introducing a fluid into the housing;

b) introducing food product into a heat transfer medium within the housing of the blancher through the inlet;

c) discharging a fluid through at least one of the plurality of pairs of orifices into the heat transfer medium;

d) heating the food product in the food product-receiving chamber;

e) urging the food product in the food product-receiving chamber toward the outlet; and

f) removing the food product from the food product-receiving chamber through the outlet;

and

~~The method of claim 1~~ wherein the blancher has a length, the food products have a density of at least 55 lb/ft³, and in step c) there is at least one orifice through which water is discharged at a flow rate of at least 80 gpm per foot of blancher length and a pressure of at least 30 psi and there is at least one orifice through which air is discharged at a flow rate of at least 60 SCFM per foot of blancher length and a pressure of at least 2 psi.

27. (original) The method of claim 26 wherein there is at least eight inches of depth of food product in the food product-receiving chamber.

28. (original) The method of claim 26 wherein at least eight thousand pounds of food product per hour is removed in step f).

29. (currently amended) A method of heating a food product comprising:

a) providing a blancher including a food product-receiving chamber disposed in a housing that has a food product inlet and a food product outlet, a rotary food product transport mechanism disposed in the food product receiving chamber for urging the food product toward the food product outlet, and a plurality of pairs of orifices each for introducing a fluid into the housing;

b) introducing food product into a heat transfer medium within the housing of the blancher through the inlet;

c) discharging a fluid through at least one of the plurality of pairs of orifices into the heat transfer medium;

d) heating the food product in the food product-receiving chamber;

e) urging the food product in the food product-receiving chamber toward the outlet; and

f) removing the food product from the food product-receiving chamber through the outlet;
and

~~The method of claim 1~~ wherein the blancher has a length, the food products have a density of at least 55 lb/ft³, and in step c) there is at least one orifice through which water is discharged at a flow rate of at least 20 gpm per foot of blancher length and a pressure of at least 80 psi and there is at least one orifice through which air is discharged at a flow rate of at least 10 SCFM per foot of blancher length and a pressure of at least 80 psi.

30. (original) The method of claim 29 wherein there is at least eight inches of depth of food product in the food product-receiving chamber.

31. (original) The method of claim 29 wherein at least eight thousand pounds of food product per hour is removed in step f).

32. (currently amended) A method of heating a food product comprising:

a) providing a blancher including a food product-receiving chamber disposed in a housing that has a food product inlet and a food product outlet, a rotary food product transport mechanism disposed in the food product receiving chamber for urging the food product toward the food product outlet, and a plurality of pairs of orifices each for introducing a fluid into the housing;

b) introducing food product into a heat transfer medium within the housing of the blancher through the inlet;

c) discharging a fluid through at least one of the plurality of pairs of orifices into the heat transfer medium;

d) heating the food product in the food product-receiving chamber;

e) urging the food product in the food product-receiving chamber toward the outlet; and

f) removing the food product from the food product-receiving chamber through the outlet;
and

~~The method of claim 1~~ wherein the blancher has a length, the food products have a density of at least 55 lb/ft³, and in step c) there is at least one orifice through which water is discharged at a flow rate of at least 80 gpm per foot of blancher length and a pressure of at least 30 psi and there is at least one orifice through which air is discharged at a flow rate of at least 10 SCFM per foot of blancher length and a pressure of at least 80 psi.

33. (original) The method of claim 32 wherein there is at least eight inches of depth of food product in the food product-receiving chamber.

34. (original) The method of claim 32 wherein at least eight thousand pounds of food product per hour is removed in step f).

35. (currently amended) A method of heating a food product comprising:

a) providing a blancher including a food product-receiving chamber disposed in a housing that has a food product inlet and a food product outlet, a rotary food product transport mechanism disposed in the food product receiving chamber for urging the food product toward the food product outlet, and a plurality of pairs of orifices each for introducing a fluid into the housing;

b) introducing food product into a heat transfer medium within the housing of the blancher through the inlet;

c) discharging a fluid through at least one of the plurality of pairs of orifices into the heat transfer medium;

d) heating the food product in the food product-receiving chamber;

e) urging the food product in the food product-receiving chamber toward the outlet; and

f) removing the food product from the food product-receiving chamber through the outlet;

and

~~The method of claim 1~~ wherein the blancher has a length, the food products have a density of no greater than 55 lb/ft³, and in step c) there is at least one orifice through which air is discharged at a flow rate of at least 60 SCFM per foot of blancher length and a pressure of at least 2 psi.

36. (original) The method of claim 35 wherein there is at least eight inches of depth of food product in the food product-receiving chamber.

37. (original) The method of claim 35 wherein at least four thousand five hundred pounds of food product per hour is removed in step f).

38. (currently amended) A method of heating a food product comprising:

a) providing a blancher including a food product-receiving chamber disposed in a housing that has a food product inlet and a food product outlet, a rotary food product transport mechanism disposed in the food product receiving chamber for urging the food product toward the food product outlet, and a plurality of pairs of orifices each for introducing a fluid into the housing;

b) introducing food product into a heat transfer medium within the housing of the blancher through the inlet;

c) discharging a fluid through at least one of the plurality of pairs of orifices into the heat transfer medium;

d) heating the food product in the food product-receiving chamber;

e) urging the food product in the food product-receiving chamber toward the outlet; and

f) removing the food product from the food product-receiving chamber through the outlet;
and

~~The method of claim 1~~ wherein the blancher has a length, the food products have a density of no greater than 55 lb/ft³, and in step c) there is at least one orifice through which air is discharged at a flow rate of at least 10 SCFM per foot of blancher length and a pressure of at least 80 psi.

39. (original) The method of claim 38 wherein there is at least eight inches of depth of food product in the food product-receiving chamber.

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40. (original) The method of claim 38 wherein at least four thousand five hundred pounds of food product per hour is removed in step f).

Please add the following new claims:

41. (new) A method of heating a food product comprising:

a) providing a blancher including a food product-receiving chamber disposed in a housing that has a food product inlet and a food product outlet, a rotary food product transport mechanism disposed in the food product receiving chamber for urging the food product toward the food product outlet, a first manifold having a plurality of pairs of orifices each for introducing a fluid into the housing, and a second manifold having a plurality of pairs of orifices each for introducing a fluid into the housing;

b) introducing food product into a heat transfer medium within the housing of the blancher through the inlet;

c) discharging a fluid through each one of the plurality of pairs of orifices into the heat transfer medium;

d) heating the food product in the food product-receiving chamber;

e) urging the food product in the food product-receiving chamber toward the outlet; and

f) removing the food product from the food product-receiving chamber through the outlet;

and

wherein each manifold is 1) oriented in a lengthwise direction relative to the food product receiving chamber with its orifices directing flow of liquid heat transfer medium toward the food product receiving chamber and 2) located outwardly of a lengthwise-extending centerline of the

blancher in an exiting quadrant thereof defined from where the rotating food product transport

mechanism emerges from the heat transfer medium to adjacent the centerline but not passing to or beyond the centerline.

42. (new) A method of heating a food product comprising:

a) providing a blancher including a food product-receiving chamber disposed in a housing that has a food product inlet and a food product outlet, a rotary food product transport mechanism disposed in the food product receiving chamber for urging the food product toward the food product outlet, and a manifold having a plurality of pairs of orifices each for introducing a fluid into the housing;

b) introducing food product into a heat transfer medium within the housing of the blancher through the inlet;

c) discharging a fluid through each one of the plurality of pairs of orifices into the heat transfer medium;

d) heating the food product in the food product-receiving chamber;

e) urging the food product in the food product-receiving chamber toward the outlet; and

f) removing the food product from the food product-receiving chamber through the outlet;

wherein in step c) the fluid is a liquid that is discharged through each one of the orifices at a flow rate of at least 20 gallons per minute per foot of manifold; and

wherein the manifold is 1) oriented in a lengthwise direction relative to the food product receiving chamber with its orifices directing flow of liquid heat transfer medium toward the food

product receiving chamber and 2) located outwardly of a lengthwise-extending centerline of the blancher in an exiting quadrant thereof defined from where the rotating food product transport mechanism emerges from the heat transfer medium to adjacent the centerline but not passing to or beyond the centerline.

43. (new) A method of heating a food product comprising:

a) providing a blancher including a food product-receiving chamber disposed in a housing that has a food product inlet and a food product outlet, a rotary food product transport mechanism disposed in the food product receiving chamber for urging the food product toward the food product outlet, a first manifold having a plurality of pairs of orifices each for introducing a fluid into the housing, and a second manifold having a plurality of pairs of orifices each for introducing a fluid into the housing;

b) introducing food product into a heat transfer medium within the housing of the blancher through the inlet;

c) discharging a fluid through each one of the plurality of pairs of orifices into the heat transfer medium;

d) heating the food product in the food product-receiving chamber;

e) urging the food product in the food product-receiving chamber toward the outlet; and

f) removing the food product from the food product-receiving chamber through the outlet;

wherein in step c) the fluid is a liquid that is discharged through each one of the orifices at a flow rate of at least 20 gallons per minute per foot of manifold; and

wherein each manifold is 1) oriented in a lengthwise direction relative to the food product receiving chamber with its orifices directing flow of liquid heat transfer medium toward the food product receiving chamber and 2) located outwardly of a lengthwise-extending centerline of the blancher in an exiting quadrant thereof defined from where the rotating food product transport mechanism emerges from the heat transfer medium to adjacent the centerline but not passing to or beyond the centerline.

44. (new) A method of heating a food product comprising:

a) providing a blancher including a food product-receiving chamber disposed in a housing that has a food product inlet and a food product outlet, a rotary food product transport mechanism disposed in the food product receiving chamber for urging the food product toward the food product outlet, a first manifold having a plurality of pairs of orifices each for introducing a fluid into the housing, and a second manifold having a plurality of pairs of orifices each for introducing a fluid into the housing;

b) introducing food product into a heat transfer medium within the housing of the blancher through the inlet;

c) discharging a fluid through each one of the plurality of pairs of orifices into the heat transfer medium;

- d) heating the food product in the food product-receiving chamber;
- e) urging the food product in the food product-receiving chamber toward the outlet; and
- f) removing the food product from the food product-receiving chamber through the outlet;

wherein each manifold is 1) oriented in a lengthwise direction relative to the food product receiving chamber with its orifices directing flow of liquid heat transfer medium toward the food product receiving chamber and 2) located outwardly of a lengthwise-extending centerline of the blancher in an exiting quadrant thereof defined from where the rotating food product transport mechanism emerges from the heat transfer medium to adjacent the centerline but not passing to or beyond the centerline; and

wherein a liquid is discharged from the orifices of one of the manifolds and a gas is discharged from the orifices of the other one of the manifolds.

45. (new) A method of heating a food product comprising:

a) providing a blancher including a food product-receiving chamber disposed in a housing that has a food product inlet and a food product outlet, a rotary food product transport mechanism disposed in the food product receiving chamber for urging the food product toward the food product outlet, a first manifold having a plurality of pairs of orifices each for introducing a fluid into the housing, and a second manifold having a plurality of pairs of orifices each for introducing a fluid into the housing;

b) introducing food product into a heat transfer medium within the housing of the blancher through the inlet;

c) discharging a fluid through each one of the plurality of pairs of orifices into the heat transfer medium;

d) heating the food product in the food product-receiving chamber;

e) urging the food product in the food product-receiving chamber toward the outlet; and

f) removing the food product from the food product-receiving chamber through the outlet;

wherein in step c) the fluid is a liquid that is discharged through each one of the orifices of one of the manifolds at a flow rate of at least 20 gallons per minute at a pressure of at least 30 pounds per square inch; and

wherein each manifold is 1) oriented in a lengthwise direction relative to the food product receiving chamber with its orifices directing flow of liquid heat transfer medium toward the food product receiving chamber and 2) located outwardly of a lengthwise-extending centerline of the blancher in an exiting quadrant thereof defined from where the rotating food product transport mechanism emerges from the heat transfer medium to adjacent the centerline but not passing to or beyond the centerline.

46. (original) The method of claim 45 wherein in step c) the fluid is a gas that is discharged through each one of the orifices of the other one of the manifolds at a flow rate of at least 10 standard cubic feet per minute.

47. (new) A method of heating a food product comprising:

a) providing a blancher including a food product-receiving chamber disposed in a housing that has a food product inlet and a food product outlet, a rotary food product transport mechanism disposed in the food product receiving chamber for urging the food product toward the food product outlet, and a manifold having a plurality of pairs of orifices each for introducing a fluid into the housing;

b) introducing food product into a heat transfer medium within the housing of the blancher through the inlet;

c) discharging a fluid through each one of the plurality of pairs of orifices into the heat transfer medium;

d) heating the food product in the food product-receiving chamber;

e) urging the food product in the food product-receiving chamber toward the outlet; and

f) removing the food product from the food product-receiving chamber through the outlet;

wherein in step c) the fluid is a liquid that is discharged through each one of the orifices at a flow rate of at least 20 gallons per minute;

wherein the manifold is 1) oriented in a lengthwise direction relative to the food product receiving chamber with its orifices directing flow of liquid heat transfer medium toward the food product receiving chamber and 2) located outwardly of a lengthwise-extending centerline of the blancher in an exiting quadrant thereof defined from where the rotating food product transport

mechanism emerges from the heat transfer medium to adjacent the centerline but not passing to or beyond the centerline; and

wherein at least four thousand five hundred pounds of food product per hour is removed in step f).

48. (new) A method of heating a food product comprising:

a) providing a blancher including a food product-receiving chamber disposed in a housing that has a food product inlet and a food product outlet, a rotary food product transport mechanism disposed in the food product receiving chamber for urging the food product toward the food product outlet, and a manifold having a plurality of pairs of orifices each for introducing a fluid into the housing;

b) introducing food product into a heat transfer medium within the housing of the blancher through the inlet;

c) discharging a fluid through each one of the plurality of pairs of orifices into the heat transfer medium;

d) heating the food product in the food product-receiving chamber;

e) urging the food product in the food product-receiving chamber toward the outlet; and

f) removing the food product from the food product-receiving chamber through the outlet;

wherein in step c) the fluid is a liquid that is discharged through each one of the orifices at a flow rate of at least 20 gallons per minute;

wherein the manifold is 1) oriented in a lengthwise direction relative to the food product receiving chamber with its orifices directing flow of liquid heat transfer medium toward the food product receiving chamber and 2) located outwardly of a lengthwise-extending centerline of the blancher in an exiting quadrant thereof defined from where the rotating food product transport mechanism emerges from the heat transfer medium to adjacent the centerline but not passing to or beyond the centerline; and

wherein there is at least eight inches of depth of food product in the food product-receiving chamber.

49. (new) A method of heating a food product comprising:

a) providing a blancher including a food product-receiving chamber disposed in a housing that has a food product inlet and a food product outlet, a rotary food product transport mechanism disposed in the food product receiving chamber for urging the food product toward the food product outlet, and a manifold having a plurality of pairs of orifices each for introducing a fluid into the housing;

b) introducing food product into a heat transfer medium within the housing of the blancher through the inlet;

c) discharging a fluid through each one of the plurality of pairs of orifices into the heat transfer medium;

d) heating the food product in the food product-receiving chamber;

e) urging the food product in the food product-receiving chamber toward the outlet; and
f) removing the food product from the food product-receiving chamber through the outlet;
wherein in step c) the fluid is a liquid that is discharged through each one of the orifices
at a flow rate of at least 20 gallons per minute;

wherein the manifold is 1) oriented in a lengthwise direction relative to the food product
receiving chamber with its orifices directing flow of liquid heat transfer medium toward the food
product receiving chamber and 2) located outwardly of a lengthwise-extending centerline of the
blancher in an exiting quadrant thereof defined from where the rotating food product transport
mechanism emerges from the heat transfer medium to adjacent the centerline but not passing to
or beyond the centerline; and

wherein at least eight thousand pounds of food product per hour is removed in step f).

50. (new) A method of heating a food product comprising:

a) providing a blancher including a food product-receiving chamber disposed in a housing
that has a food product inlet and a food product outlet, a rotary food product transport mechanism
disposed in the food product receiving chamber for urging the food product toward the food
product outlet, a first manifold having a plurality of pairs of orifices each for introducing a fluid
into the housing, and a second manifold having a plurality of pairs of orifices each for
introducing a fluid into the housing;

b) introducing food product into a heat transfer medium within the housing of the blancher through the inlet;

c) discharging a fluid through each one of the plurality of pairs of orifices into the heat transfer medium;

d) heating the food product in the food product-receiving chamber;

e) urging the food product in the food product-receiving chamber toward the outlet; and

f) removing the food product from the food product-receiving chamber through the outlet;

wherein in step c) the fluid is a liquid that is discharged through each one of the orifices of at least one of the manifolds at a flow rate of at least 20 gallons per minute;

wherein each manifold is 1) oriented in a lengthwise direction relative to the food product receiving chamber with its orifices directing flow of liquid heat transfer medium toward the food product receiving chamber and 2) located outwardly of a lengthwise-extending centerline of the blancher in an exiting quadrant thereof defined from where the rotating food product transport mechanism emerges from the heat transfer medium to adjacent the centerline but not passing to or beyond the centerline; and

wherein at least four thousand five hundred pounds of food product per hour is removed in step f).

51. (new) A method of heating a food product comprising:

a) providing a blancher including a food product-receiving chamber disposed in a housing that has a food product inlet and a food product outlet, a rotary food product transport mechanism disposed in the food product receiving chamber for urging the food product toward the food product outlet, a first manifold having a plurality of pairs of orifices each for introducing a fluid into the housing, and a second manifold having a plurality of pairs of orifices each for introducing a fluid into the housing;

b) introducing food product into a heat transfer medium within the housing of the blancher through the inlet;

c) discharging a fluid through each one of the plurality of pairs of orifices into the heat transfer medium;

d) heating the food product in the food product-receiving chamber;

e) urging the food product in the food product-receiving chamber toward the outlet; and

f) removing the food product from the food product-receiving chamber through the outlet;

wherein in step c) the fluid is a liquid that is discharged through each one of the orifices of at least one of the manifolds at a flow rate of at least 20 gallons per minute;

wherein each manifold is 1) oriented in a lengthwise direction relative to the food product receiving chamber with its orifices directing flow of liquid heat transfer medium toward the food product receiving chamber and 2) located outwardly of a lengthwise-extending centerline of the blancher in an exiting quadrant thereof defined from where the rotating food product transport

mechanism emerges from the heat transfer medium to adjacent the centerline but not passing to or beyond the centerline; and

wherein there is at least eight inches of depth of food product in the food product-receiving chamber.

52. (new) A method of heating a food product comprising:

a) providing a blancher including a food product-receiving chamber disposed in a housing that has a food product inlet and a food product outlet, a rotary food product transport mechanism disposed in the food product receiving chamber for urging the food product toward the food product outlet, a first manifold having a plurality of pairs of orifices each for introducing a fluid into the housing, and a second manifold having a plurality of pairs of orifices each for introducing a fluid into the housing;

b) introducing food product into a heat transfer medium within the housing of the blancher through the inlet;

c) discharging a fluid through each one of the plurality of pairs of orifices into the heat transfer medium;

d) heating the food product in the food product-receiving chamber;

e) urging the food product in the food product-receiving chamber toward the outlet; and

f) removing the food product from the food product-receiving chamber through the outlet;

wherein in step c) the fluid is a liquid that is discharged through each one of the orifices of at least one of the manifolds at a flow rate of at least 20 gallons per minute;

wherein each manifold is 1) oriented in a lengthwise direction relative to the food product receiving chamber with its orifices directing flow of liquid heat transfer medium toward the food product receiving chamber and 2) located outwardly of a lengthwise-extending centerline of the blancher in an exiting quadrant thereof defined from where the rotating food product transport mechanism emerges from the heat transfer medium to adjacent the centerline but not passing to or beyond the centerline; and

wherein at least eight thousand pounds of food product per hour is removed in step f).